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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,633	03/01/2004	Bevan Staple	019930-002510US	3080
20350	7590	08/02/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			TAMAI, KARL I	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/791,633

Applicant(s)

STAPLE ET AL.

Examiner

Tamai IE Karl

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-13, 15, 16 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13, 15, 16 and 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's request to rejoin claims 23-26 is approved.

***Specification***

2. The amended title "MEMS-Based Noncontacting Device with Tilttable, Interdigitated Assemblies" has been entered into the file wrapper. The requirement of a new title is withdrawn.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 6, 10, 13, 15, 23, and 26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yamada et al. (Yamada)(US 5959760). Yamada teaches an electrostatic actuator (fig. 12 a). Yamada teaches the tilt able platforms 11 and 2 are supported over the substrate 1 by torsion beams and rotate to become interdigital upon activation. Yamada teaches the tilt able assemblies made of thin films with structural linkage platforms having fingers on the ends.
5. The rejection of Claims 1, 4, 10, and 13 under 35 U.S.C. 102(e) is withdrawn.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2, 3, 11, 12, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamad1a)(US 5959760) and Schenk et al. (Schenk) (US 6595055). Yamada teaches every aspect of the invention except the platforms supported as a cantilever and torsion beam. Schenk teaches the equivalence of the support for the rotating platform being cantilevered or torsion beam (col. 6. line 65). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada with the support for the tilting platforms

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being cantilevered and torsions beam to allow oscillation of the platform as taught by Schenk, and because selection between known equivalents is within the ordinary skill in the art.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamada)(US 5959760) and Mitamura (US 5,908,986). Yamada teaches every aspect of the invention except the electrodes and structural film formed from polysilicon. Mitamura teaches the electrostatic actuators can be made from silicon or polysilicon films. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada with the structural thin film and electrodes being polysilicon because Mitamura teaches it is the preferred material and the structures can be easily formed by well known technologies, and because selection of the preferred material is within the ordinary skill in the art (*In re Leshin*, 125 USPQ 416).

10. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamada)(US 5959760). Yamada teaches every aspect of the invention except the first structural linkage at a greater height than the second structural linkage. Yamada teaches the opposing electrodes at different heights to control the deflection angle of the mirror. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada figure 12 with the electrodes 15 and 2 being at different heights to control the deflection angle, as taught by Yamada.

***Response to Arguments***

11. Applicant's arguments filed 6/5/2005 have been fully considered but they are not persuasive. The Tang et al. reference entitled "Electrostatically Balanced Comb Drive for Controlled Levitation" has been considered and cited on the PTO-892. The Applicant's argument that Yamada does not teach the electrodes becoming interdigital is not persuasive. Yamada figures 12A and 12B show the first titlable assembly 2 is below the second interdigital assembly 15 and they become interdigital upon activation.

***Conclusion***

12. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai  
PRIMARY PATENT EXAMINER  
July 29, 2005



KARL TAMAI  
PRIMARY EXAMINER